



Issue no: 1 | Vol no: 4 | November 2023: 376-388

Relationship between selected teaching cultures and student academic achievement in secondary schools in Nakuru County, Kenya

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Article History

Received: 2023-08-10

Accepted: 2023-10-13

Published: 2023-11-17

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Cite this article in APA

Ngare, N. N., Ochola, J. N., & Ngala, F. B. J. A. (2023). Relationship between selected teaching cultures and student academic achievement in secondary schools in Nakuru County, Kenya. *Editon consortium journal of curriculum and educational studies*, 4(1), 376-388. <https://doi.org/10.51317/ecjces.v4i1.426>

Abstract

The aim of this study was to find out the relationship between selected teaching cultures and academic achievement in the KCSE examination in secondary schools in Nakuru County, Kenya. This study was guided by the theories of educational productivity and organisational culture. The study adopted the descriptive survey design. The target population was comprised of all KCSE 2021 candidates and all principals of secondary schools in the county. The study used an outlier approach and a multistage sampling technique. The sample size consisted of 2214 students and 80 principals of schools. The study found a positive relationship between teaching cultures and student academic performance in both low and high-performing Kenyan schools. Low-performing schools showed a moderately positive correlation ($r = 0.450$, $p = 0.006$), while high-performing schools exhibited a notably strong positive correlation ($r = 0.846$, $p = 0.000$). This suggests that the impact of teaching culture on student academic achievement was more pronounced in high-performing schools. In public secondary schools, the correlation is moderately positive ($r = 0.458$), and in private secondary schools, it had a stronger positive correlation ($r = 0.724$), with both being statistically significant at the 0.05 level. The study recommends that the school management should among others: consider organising in-service training sessions to equip the teachers with appropriate skills on how to effectively embrace teaching cultures, consider reviewing policies geared towards enhancing the quality and relevance of teaching cultures employed in schools, put in place stringent supervisory procedures to ensure that teachers in schools that are not practicing some teaching cultures do so. They need to be encouraged and supported to prepare schemes of work, and lesson plans, as well as conduct remedial lessons for slow learners.

Key words: Educational institutions, KCSE examination, school culture, student academic achievement, teaching cultures.



INTRODUCTION

School culture is a complex and deeply ingrained framework encompassing shared values, attitudes, beliefs, and norms that shape the identity and operational norms of an educational institution (Teasley, 2016). This culture, largely driven by the values and beliefs held by its members, is characterised by its enduring nature and resistance to change, with shifts typically occurring under specific circumstances, such as crises or changes in leadership (Tony, 2015). Educational managers play a crucial role in studying and managing the comprehensive human resources within educational institutions, and school culture, intertwined with the practices of students and education personnel, falls under their purview (Ibrahim & Mohamed, 2017). Numerous studies emphasise the significance of effective teaching cultures in schools, including the use of information and communication technology (ICT), meticulous lesson preparation, active classroom engagement, rigorous examination preparation, and student participation as pivotal elements that contribute to improved student achievement (Rosenshine, 2012; Le Donné et al., 2016).

Research by the Asia Society in 2016 highlighted key characteristics of effective teachers, emphasising the pivotal role of teacher knowledge, pedagogical skills, and values in successful teaching practices. The study emphasised the importance of teachers having a comprehensive understanding of their subject matter, along with the ability to proficiently plan and assess lessons while demonstrating care for students. These findings establish a direct link between effective teaching cultures and positive academic outcomes, underlining teacher expertise and pedagogical proficiency as predictive factors for student achievement (Ebele & Olofu, 2017). Kaplan and Owings (2013) further highlighted the crucial impact of school culture on the overall school organisation, differentiating between positive and negative school cultures. Positive cultures promote a sense of value and shared purpose, while negative cultures lack these elements, hindering the enactment of continuous learning and improvement norms.

Multiple studies conducted in Kenya have examined the poor academic performance issue in secondary schools. For instance, a study in Elgeyo Marakwet County

identified poor academic performance (Jerotich, 2015). Another study by Muasya et al. (2017) investigated the relationship between academic performance and head teachers' instructional leadership practices in Machakos County, revealing a similar trend of underperformance in schools. However, this problem isn't limited to Elgeyo Marakwet and Machakos Counties, as Nakuru County has also faced challenges. The overall mean for the entire County from 2015 to 2019 remained low at 3.953 (D) which was below average. These studies underscore the need for a comprehensive research on the factors affecting academic performance, including school culture, teaching quality, and educational leadership, with a call for customised strategies and collaborative efforts by educators, policymakers, and the community to enhance educational outcomes and unleash the full potential of Kenyan students.

The persistent problem of poor academic performance in Nakuru County's secondary schools, both public and private, poses significant educational and socioeconomic challenges. Despite the government's commitment to subsidise public education and make it accessible, students and parents continue to opt for private schools, which are relatively costly. These variations in school preference prompt the need for an in-depth exploration of the factors influencing the attractiveness of private schools and their academic outcomes compared to public institutions.

Academic achievement in Nakuru County schools has been marked by stark disparities, as demonstrated by the examination results of the Kenya Certificate of Secondary Education (KCSE). In this context, we observe a substantial contrast in academic performance between poorly performing schools (with a mean grade of D-) and high-performing schools (scoring C+ and above) from 2015 to 2019. The decline in the county's overall mean score over these years, which consistently remained below average, raises concerns about the quality of education and its potential consequences on future economic development.

Given the critical implications of poor academic performance in Nakuru County, this study sought to examine the impact of teaching cultures on students' academic achievements in secondary schools. Understanding the role of teaching culture and its

influence on academic outcomes is vital in devising targeted interventions and educational reforms to enhance the quality of education in both public and private schools in the county, ultimately contributing to the well-being and development of its students and the region as a whole.

LITERATURE REVIEW

School Culture in Secondary Schools and Academic Achievement

In global secondary education, disparities in academic achievement are apparent, with private schools consistently surpassing public schools, as observed in England (Ndaji et al., 2016). However, the specific reasons behind these variations, such as the role of teaching cultures, remain under-explored. Factors contributing to private schools' superior performance include financial resources, student socioeconomic status, and improved supervision (Iddi, 2016). Discrepancies in computer allocation favouring public schools have been identified, while positive teaching cultures in private schools potentially contribute to their academic success (UNESCO Institute for Statistics, 2013). Ashley et al. (2014) emphasised the impact of teaching cultures in private schools, resulting in better learning outcomes, because of discipline, and smaller class sizes. Conversely, Magulod Jr. (2017) found public schools outperforming private schools in the Philippines, emphasising the influence of school culture variables on academic achievement. This study investigated the effectiveness of teaching cultures in Kenya, particularly in Nakuru County, to bridge these knowledge gaps and account for contextual differences.

According to the findings of the Kenya Certificate of Secondary Education (KCSE) schools' performance in a few public secondary schools in Machakos County, Kenya, Ngumuta (2022) looked at certain characteristics of school culture and how they related to students' academic achievement. According to the study, a number of school-specific cultural factors influence kids' academic achievement. The most important positive cultural elements at particular public secondary schools that improved students' academic performance were instructors' shared norms, their optimistic expectations for students' academic performance, and their positive interactions with one another. The results also showed that there were several common negative cultural

features in schools, including teacher and student rumours. The study came to the conclusion that beneficial school culture had a considerable impact on kids' academic achievement.

Teaching Culture and Academic Achievement

Teaching is a process that plays a crucial role in the holistic development of learners. Teachers are important in shaping learning outcomes (Max & Esteban, 2020). In their study, Le Donné et al. (2016) introduced the concept of teaching culture within a school set-up and identified three common teaching practices: Active learning, cognitive activation, and teacher-directed instruction. These practices are associated with varying degrees of academic achievement. The study aimed to address a gap in the understanding of why frequently used teaching cultures like teacher-directed instruction and active learning yielded different academic outcomes (Mkimbili, 2018; Ndethiu et al., 2017; Jepketer et al., 2015).

The literature review underscores the importance of localised studies in understanding the relationship between teaching cultures and academic achievement (Rosenshine, 2012; The Asia Society, 2016; OECD, 2018). It emphasises that teaching practices may vary between countries and regions, underlining the need for context-specific research.

Furthermore, the discussion in the literature outlines the multifaceted nature of teaching culture, which extends beyond the classroom and encompasses various aspects such as teacher preparation, use of resources, and teaching strategies. Lesson study, for instance, was introduced as a learner-centred teaching strategy which had a potential impact on academic achievement (Jung et al., 2016).

A knowledge gap is identified in the existing literature, particularly regarding how teaching cultures in different subjects impact academic achievement and how contextual differences influence teaching practices (Nesari, 2014; Malunda et al., 2016; Republic of Uganda, Ministry of Education and Sports, 2014). The study investigated the influence of teaching cultures on academic achievement in Nakuru County, Kenya, taking into account local challenges and opportunities.

Teaching culture in a school involves many activities and aspects. One of these aspects is learner evaluation. Learner evaluation normally takes the form of continuous assessment (CA), also called formative evaluation and summative evaluation. Cauley and McMillan (2009) define formative assessment as a process through which assessment-elicited evidence of student learning is gathered, and instruction is modified in response to feedback. Formative assessment is an ongoing process compared to summative evaluation, which is done at the end of a learning experience (or course) p.1. The study by Cauley and McMillan highlights the importance of assessment methods in measuring student achievement. However, it does not specify the extent to which these assessment methods are used in the context of secondary schools in Nakuru County, Kenya. Additionally, it does not address any potential variations or challenges specific to this geographical location and cultural context.

Faleye and Adefiyoye (2016) conducted a study in Nigeria on the frequency of conducting CA by secondary school teachers and found that CA is conducted fortnightly by 44.4 per cent of teachers who participated in the study. The study also found differences in the methods used in administering CA in private and public secondary schools. Of private schools, 60 per cent employed tests, while 41.7 used assignments. The study revealed differences between private and public schools, with private schools using tests more frequently for CA compared to public schools. However, while this study provides insights into assessment practices in Nigeria, it does not directly address the situation in Nakuru County, Kenya. The potential differences between educational systems, teacher practices, and student responses in these two countries are not explored.

Apart from learner evaluation, another key aspect of the teaching culture of a school is carrying out remedial lessons. In the Netherlands, according to OECD (2016), remedial lessons were often more on offer than enrichment classes. Of Dutch secondary school students, 59 per cent were only able to attend remedial classes after school, and no additional classes were offered for students who wanted to excel. In contrast, in Japan and Korea, only 12 per cent of schools offered remedial classes, and the majority offered both remedial and enrichment classes (about 72% in Japan and 80% in Korea). The study discussed the availability of remedial

and enrichment classes in secondary schools in the Netherlands, Japan, and Korea. It highlighted that in the Netherlands, remedial classes were more common than enrichment classes, while in Japan and Korea, both types of classes were prevalent. However, it does not directly connect the situation in the Netherlands, Japan, and Korea to Nakuru County, Kenya. It lacks information about the current availability and impact of remedial and enrichment classes in Nakuru County's secondary schools.

A study by Mbugua et al. (2012) in Baringo County, Kenya, established that remedial lessons were required to enable the completion of the mathematics syllabus. From this study, it was found that teachers used discussions (64.2%) and lectures (5.6%) in teaching mathematics. It was also revealed that question and answer (27%) and discovery methods (6.5 %) were other practices of teaching mathematics that the teachers used. Such teachers could also use ICT for effective lesson delivery. The study examined factors that influenced the performance of mathematics in secondary schools in Baringo County and strategies for improving performance.

From the literature a number of studies have established ICT usage in teaching and learning for instance, a recent study in Tanzania found that most secondary school teachers had minimal skills in integrating Information Communication Technology (ICT) in teaching and learning due to several challenges, such as lack of ICT facilities, limited ICT competency among teachers, and high resistance from many teachers. ICT use in teaching and learning enhances understanding among learners (Kweka & Ndibalema, 2018). This study was done in Tanzania, focusing on public schools only. The current study looked at both public and private schools in Nakuru County, Kenya. The study mentions a study in Tanzania that revealed challenges faced by teachers in integrating ICT due to a lack of facilities and competencies. The gap is the potential inadequate use of ICT tools to enhance understanding among students. The study addressed similar challenges in Kenyan schools, both public and private, in Nakuru County.

In the Kenyan context, especially in recent years, numerous empirical researches have been carried out on the use of ICT in teaching. A lot of literature points to the

fact that teachers have not fully embraced the use of ICT in teaching at the secondary school level owing to several constraints. In Meru County, for example, Mingaine (2013) found that a limited supply of qualified teachers and the high cost of infrastructure were impediments to the implementation of ICT, although school leadership supported ICT. It should also be noted that ICT use in teaching and learning is a supplementary strategy to the use of textbooks. The study looked at challenges facing the usage of ICT in schools and how they influenced its implementation in schools. The study indicates that while research in Kenya has been conducted on ICT use in teaching, teachers haven't fully embraced it due to various constraints. The gap is the incomplete integration of ICT in the teaching process despite its potential benefits. The current study examined the influence of ICT usage in teaching and learning on academic achievement in Nakuru County, Kenya.

Team teaching is yet another critical aspect of the teaching culture in a school. In Kenya, few studies have been done on team teaching in secondary schools, especially in the counties where academic achievement in secondary schools has been poor in standardised examinations. In one such study in Kenya, Nandwa (2017) investigated the effect of the team teaching method on students' achievement and found a substantial difference in the average achievement scores of students taught using the team teaching method and those taught using conventional methods. He opined that certain teaching approaches, when used appropriately, can boost student achievements. These methods include team teaching, problem-solving and group discussions, and peer teaching, among others.

Another significant teaching method has been identified as peer teaching in the literature. In Kenya, Oloo et al. (2016) conducted a study in Bungoma South Sub County on the effect of peer teaching among students on their performance in mathematics and found that student achievement tests showed that peer teaching increased students' achievement in mathematics. Responses from questionnaires additionally showed that peer teaching enhanced retention of the subject matter, enhanced understanding of mathematics concepts, and built confidence in the learners, thus improving learners' attitudes and motivation towards the subject. This was an important finding given that mathematics is one of the

core subjects in the secondary school curriculum, which is poorly performed in Kenya.

Theoretical Framework

Education research relies heavily on theoretical underpinnings to provide a scientific rationale for research and to inform the study's direction. According to The Research Council of Norway and UTDANNING 2020 (2012), theories offer predictions, explanations, and guidelines for educational research while guarding against unscientific approaches. The study draws from Walberg's (1984) Theory of Educational Productivity, which identifies nine key variables, including motivation, ability, instructional quality, and environment among others. The components are further divided into aptitude, instruction, and environment groups that predict academic achievement, as demonstrated by studies like Kruger (2012).

The study was also informed by Organisational culture theory by Quinn and Rohrbaugh (1983), which provides a spatial model based on three value dimensions, namely organisational focus, structure, and means and ends, and four models (human relations, open systems, rational goal, and internal process) that guide the analysis and evaluation of organisational effectiveness, as seen in research by Berkemeyer et al. (2015).

The study employed these theories to investigate how teaching cultures influence academic productivity which essentially entails academic achievement, aligning with the rational goal model's emphasis on productivity and efficiency within educational organisations.

RESULTS AND FINDINGS

Respondents' Response Rate

The study achieved a response rate of 77.33 per cent, with 1707 students and 67 principals responding, indicating that the attained response rate was deemed sufficient for the research; furthermore, the participating schools by school performance category were well-represented, with 90 per cent of top-performing KCSE public secondary schools, 100 per cent of top-performing KCSE private secondary schools, 100 per cent of low-performing KCSE public secondary schools, and 80 per cent of low-performing KCSE private secondary schools, surpassing the recommended 75 per cent response rate for on-paper surveys (Nulty, 2008).

General Characteristics

The results indicate that of student participants, 58 per cent came from public secondary schools, while 42 per cent came from private secondary schools, ensuring a balanced representation of both categories and reducing potential bias. The findings from the demographic analysis of the respondents in the study reveal that among the student respondents, 53.3 per cent were male and 46.7 per cent were female, while among the principals, 52.7 per cent were male and 47.3 per cent were female, indicating a slight predominance of male participants in the sampled schools; however, the researcher ensured balanced representation of both genders, mitigating potential gender bias.

Descriptive Analysis of the Nexus between Teaching Cultures and Academic Achievement

The study examined several aspects of teachers' practices in Kenyan secondary schools. Notably, 94.8 per cent of respondents in public schools and 80.5 per cent in private schools agreed that teachers prepared schemes of work, aligning with previous research in Uganda (Malunda et al., 2016). Furthermore, 92 per cent of school principals reported that schemes of work were prepared once per term in most schools. In terms of lesson plans, 89.5 per cent of public school principals and 80.6 per cent of private school principals affirmed that teachers prepared them, consistent with Kimosop's findings (2015), although over 70 per cent of schools had limited lesson plan preparation, similar to the observations by Malunda et al. (2016). Additionally, the majority of principals in both public (94.7%) and private (69.4%) schools noted that teachers marked continuous assessment tests within specified timelines, a trend supported by prior research in public schools (Faleye & Adefiyoye, 2016). A significant majority of principals in both public and private schools (78.9% and 77.7%, respectively) acknowledged that subject panels were responsible for setting these examinations, highlighting a shared practice (Kipsang et al., 2021). However, variations in the timing of submitting CAT results indicated that factors beyond time affected this process.

The study looked at the revision of previous end-of-term examinations, revealing differences influenced by the Teacher Performance Appraisal and Development process (TPAD) prevalent in public schools, a practice absent in private institutions (Musasia et al., 2012). The

current study explored the improvisation of teaching resources, which was a common practice in both types of schools, with 92.1 per cent of public school principals and 66.1 per cent of private school principals confirming that teachers improvised teaching resources when it was necessary (Okori & Omenka, 2017).

Furthermore, it examined the integration of information communication technology (ICT) into teaching, with the majority of principals in both public (78.9%) and private (77.8%) schools agreed that teachers employed ICT in their teaching methods, though discrepancies suggested varying levels of integration (Jepketer et al., 2015). The utilisation of non-print resources in lesson note preparation was also analysed, with the majority of both public (86.9%) and private (66.7%) school principals confirming its practice, contrasting previous findings that emphasised a lack of priority for lesson note preparation, according to Kimosop (2015). In addition, the use of resource persons in teaching, primarily for the effective preparation of KCSE candidates, was explored, with 81.6 per cent of public school principals and 69.5 per cent of private school principals acknowledging this common practice (Akinyi & Musani, 2015). This study provided valuable insights into the diverse teaching practices and their prevalence in Kenyan secondary schools, underscoring both shared approaches and distinctions between public and private institutions.

The study's findings show that the completion of the syllabus on time is a priority in both public and private schools, with 100 per cent of public school principals and 94.4 per cent of private school principals agreeing that teachers consistently achieved this. However, there are significant variations in syllabus completion times among different schools, possibly influenced by school culture and teaching models. Furthermore, team teaching was a common practice in the majority of both public (97.4%) and private (63.9%) schools, emphasising collaboration among teachers. Additionally, a significant percentage of principals from both school categories agreed that remedial lessons were provided for slow learners, with a particular focus on weaker students, aligning with previous research indicating the positive impact of remedial classes on academic outcomes.

The study explored various educational practices in both public and private schools. It was found that peer

teaching among students was common, with 100% of public and 65.4% of private school principals acknowledging its prevalence. Peer teaching occurred at flexible times, such as free lessons, after classes, and during lunch hours, reflecting its significant impact on students' abilities, as established by Ndirika and Ubani (2017). The use of internally set mock examinations was another widespread practice, with 94.7 per cent of public and 86.1 per cent of private schools conducting them. This aligns with Adow et al.'s (2015) observations of the varied frequency of these exams. Frequent laboratory sessions were also prevalent in both public (94.8%) and private (66.7%) schools, albeit with variations in frequency, echoing Daba et al.'s (2016) findings about the challenges associated with laboratory resources. Moreover, internally set subject-based contests were attempted by students in the majority of schools, with 71.1 per cent of public and 50 per cent of private schools incorporating them, aligning with the findings of Jung et al. (2016) regarding their place in school culture.

Association between Teaching Cultures and Student Academic Achievement for Top Performing Schools

The Spearman rank correlation coefficient in Table 1 assesses the relationship between teaching cultures and student academic achievement, with values closer to 1 indicating a strong positive correlation, values near -1 implying a strong negative correlation, and values around 0 denoting no correlation. In high-performing public secondary schools, a Spearman's ρ of 0.737 reflects a strong positive correlation between Teaching Cultures and Student academic achievement ($p < 0.001$), signifying that strong teaching cultures correspond to higher academic achievement. Private schools exhibit an even stronger positive correlation (Spearman's $\rho = 0.973$) with a significant p-value ($p < 0.001$), indicating that private schools with robust teaching cultures tend to achieve higher academic results than public schools.

Table 1: Teaching Cultures & Student Academic Achievement for Top Performing Schools

Performance Category				Student Academic Achievement
Top-performing KCSE public secondary schools	rho	Teaching Culture	Correlation Coefficient	.737**
			Sig. (2-tailed)	0
			N	18
		Student Academic Achievement	Correlation Coefficient	1
			Sig. (2-tailed)	.
			N	18
Top-performing KCSE private secondary schools	rho	Teaching Culture	Correlation Coefficient	.973**
			Sig. (2-tailed)	0
			N	20
		Student Academic Achievement	Correlation Coefficient	1
			Sig. (2-tailed)	.
			N	20

Teaching Cultures and Student Academic Achievement for Low-Performing Schools

The study found a positive correlation between teaching cultures and student academic achievement, especially in top-performing private secondary schools. This stronger link in private schools ($r = 0.973$ in Table 1) may be due to better resources, smaller class sizes, and distinct teaching methods. In contrast, in Table 2, low-performing public schools show a weak, statistically insignificant relationship, likely due to inconsistent teaching cultures and limited resources. Low-performing private schools display a slightly stronger but still statistically insignificant correlation, possibly reflecting more consistent teaching cultures yet hindered by

inadequate resources. This suggests that private schools, with teacher autonomy and better conditions, have a more significant impact on teaching culture and student performance compared to resource-constrained public schools. These findings align with prior research (Malunda et al., 2016), indicating a negative impact of teaching culture on academic achievement when critical practices are neglected. The results also support later research emphasising the role of quality teaching in enhancing student outcomes in Kenya (Kimani & Mwangi, 2020). Further studies are needed to explore specific teaching practices and factors contributing to a positive teaching culture in diverse school settings.

Table 2: Correlations between Teaching Cultures and Student Academic Achievement by School Type

Performance Category				Student Academic Achievement
Low-performing KCSE public secondary schools	Spearman's rho	Teaching Culture	Correlation Coefficient	0.071
			Sig. (2-tailed)	0.767
			N	20
		Student Academic Achievement	Correlation Coefficient	1
			Sig. (2-tailed)	.
			N	20
Low-performing KCSE private secondary schools	Spearman's rho	Teaching Culture	Correlation Coefficient	0.289
			Sig. (2-tailed)	0.278
			N	16
		Student Academic Achievement	Correlation Coefficient	1
			Sig. (2-tailed)	.
			N	16

Teaching Cultures and Student Academic Achievement by School Type

The Spearman rank correlation coefficients in Table 3 reveal a moderately positive relationship between teaching cultures and student academic achievement in public secondary schools ($r = 0.458$) and a stronger positive relationship in private secondary schools ($r = 0.724$), with both correlations being statistically significant ($p = 0.004$ and $p = 0.000$, respectively) at the 0.05 level. These findings imply that teaching cultures

may more significantly affect academic achievement in private secondary schools due to differences in resources, teacher training, and student backgrounds. The stronger correlation in private schools may be influenced by their increased resources for teacher development and a student body from more affluent backgrounds. This aligns with prior research highlighting the connection between teaching quality and student achievement in Kenya (Orodho, 2013) and underscoring the role of teacher training in enhancing

teaching quality and student outcomes in low-income settings (Behrman & Knowles, 1999; Kremer et al., 2005).

Table 3: Teaching Cultures and Student Academic Achievement by School Type

	School Category			Student Academic Achievement
rho	Public	Teaching Culture	Correlation Coefficient	.458**
			Sig. (2-tailed)	0.004
			N	38
	Private	Teaching Culture	Correlation Coefficient	.724**
			Sig. (2-tailed)	0.000
			N	36

*. Correlation is significant at the 0.05 level (2-tailed).

Associations between Teaching Culture and Student Academic Achievement by Level of Performance

The Spearman rank correlation coefficient in Table 4 revealed the relationship between teaching culture and student academic achievement in both low and high-performing schools in Kenya. Low-performing schools exhibited a moderate positive correlation ($r = 0.450$, $p = 0.006$), while high-performing schools displayed a strong positive correlation ($r = 0.846$, $p = 0.000$), indicating that teaching culture's association with student academic achievement is more pronounced in high-performing schools. Possible factors contributing to this difference include

variations in school resources, student backgrounds, and teacher training and support. These findings align with a study by Oyaro et al. (2017), which noted that well-equipped facilities, trained teachers, and strong leadership in high-performing schools enhance teaching culture and boost student achievement, while resource deficiencies in low-performing schools limit teaching culture's impact. In conclusion, this highlights the significance of addressing resource disparities and enhancing teacher training to amplify the influence of teaching culture on student achievement, especially in low-performing schools in Kenya.

Table 4: Associations between Teaching Culture and Student Academic Achievement by Level of Performance

Level of Performance			Teaching Culture	Student Academic Achievement
Low Performing Schools	Teaching Culture	Correlation Coefficient	1	.450**
		Sig. (2-tailed)	.	0.006
		N	36	36
High Performing Schools	Teaching Culture	Correlation Coefficient	1	.846**
		Sig. (2-tailed)	.	0.000
		N	38	38

**. Correlation is significant at the 0.01 level (2-tailed).

Performance Trends

Using data collected via document analysis, quantitative computations were made, and the responses showed the average percentage distribution of performance grades in KCSE in the

period between 2015 and 2019, as presented in Table 5. The results show that the trend in performance is uniform and appears to be worsening in 2019. The performance is indicative of some cultures that need to be explored.

Table 5: Performance Trends

	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	Z
	%	%	%	%	%	%	%	%	%	%	%	%	%
Yr. 2015	7.1	10.7	10.1	10.0	10.8	13.2	8.4	6.1	4.2	6.4	10.1	2.9	0.0
Yr. 2016	0.1	4.1	8.7	7.8	11.2	12.1	11.2	10.8	13.5	6.3	9.7	4.4	0.2
Yr. 2017	0.0	2.2	5.2	5.9	11.0	13.3	15.1	14.7	10.0	8.5	11.0	3.0	0.1
Yr. 2018	0.1	2.2	6.8	8.3	9.8	12.8	13.0	11.7	9.6	7.9	11.6	6.2	0.0
Yr. 2019	0.1	2.5	7.1	7.9	10.4	13.6	13.7	14.7	8.8	8.2	7.8	5.3	0.0

Beta Coefficients

Table 6 presents the beta coefficients resulting from a statistical analysis, specifically regression modelling. These coefficients are essential in

understanding the relationships between the dependent variable- student academic achievement, and the independent variable- teaching culture.

Table 6: Beta Coefficients

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.303	1.105		.275	.784
Teaching Culture	1.531	.323	.557	4.743	.000

a. Dependent Variable: Student Academic Achievement

The following hypothesis was tested, and the result was as follows. Teaching Culture: The unstandardised coefficient for teaching culture is 1.531, with a standardised coefficient (Beta) of 0.557. The t-value is 4.743, which is significant at the 0.05 level ($p = 0.000$). Therefore, H_{01} , "There is no statistically significant relationship between selected teaching cultures and student academic achievement in secondary schools in Nakuru County, Kenya", can be rejected, indicating that there is a substantial relationship between selected teaching cultures and student academic achievement in secondary schools in Nakuru County, Kenya.

The results indicate that teaching culture is a significant predictor of student academic achievement in secondary schools in Nakuru County. According to a study by Chege and Sifuna (2006), teaching and learning quality in Kenyan schools is influenced by various factors, including teacher preparation, curriculum design, and school management. The authors suggest that efforts to improve student academic achievement in Kenya should focus on strengthening teacher training programs and promoting innovative teaching practices.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions: This study in Nakuru County, Kenya, examined the relationship between teaching cultures and student academic achievement in secondary schools. The findings revealed that certain teaching cultures were underutilised, notably with the absence of scheme and lesson plan preparation, delayed assessment test marking, and delayed end-of-term exam grading. Other factors impacting student achievement included subject panels' failure to set modulated exams, a lack of teaching resource improvisation, teachers not referring to sources beyond textbooks, incomplete syllabus coverage, and the absence of remedial lessons for slow learners. Top-performing schools, both public and private, showed a positive link between Teaching Cultures and Student academic achievement, with a stronger correlation in private schools.

Recommendations: The school management needs to organise up-to-date in-service training sessions to equip the teachers with appropriate skills on how to effectively embrace teaching cultures. The school management needs to consider reviewing policies geared at enhancing the quality and relevance of teaching cultures employed in schools. The school

management needs to put in place stringent supervisory procedures to ensure that teachers in schools that are not practising some teaching cultures do so. They need to be encouraged and supported to make lesson plans and schemes of work, as well as conduct remedial lessons for slow learners. Teachers should embrace and implement the recommended teaching cultures, including preparing schemes of work and lesson plans, marking continuous assessment tests within given timelines, marking

end-of-term examinations within the term, completing the syllabus in time, conducting remedial lessons for slow learners, and improvising teaching resources when necessary. They should refer to sources other than print books when preparing lesson notes, and they should set modulated end-of-term examinations. The study recommends that a future study should be conducted to identify other aspects of school cultures relating to student academic achievement in secondary schools in Nakuru County.

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